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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/034,634	12/28/2001	Mario Ricco	U 013811-2	9567
140	7590	07/12/2004	EXAMINER	
LADAS & PARRY 26 WEST 61ST STREET NEW YORK, NY 10023			BUI, THACH H	
			ART UNIT	PAPER NUMBER
			3752	

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/034,634

Applicant(s)

RICCO, MARIO

Examiner

Thach H Bui

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-14, 17 and 18 is/are rejected.
- 7) ☒ Claim(s) 6, 7, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

1. Prosecution on the merits of this application is reopened on claims 1-18 considered unpatentable for the reasons indicated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-5, 8-14, and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's prior art disclosure of a known fuel injector as described in the Background Of The Invention (pages 1 and 2 of the Specification), in view of Non Patent Literature "O-Rings" 26th Edition Machinery's Handbook.

Applicant's prior art disclosure of a known fuel injector discloses all the features of the claimed invention but fails to teach a seal for sealing the gap characterized by sizing the seal as a function of the deformation to which the seal is subjected to during use of the injector so as to achieve a predetermined working life of the injector. Non Patent Literature "O-Rings" 26th Edition Machinery's Handbook teaches the old and well known concept of sizing a seal (a Teflon seal) (page 2483) as a function of the deformation and/or the diametral squeeze to which the seal is subjected to during use of the injector so as to achieve a predetermined working life of the injector (see Fig. 1a and 1b). The squeeze is the difference between the ring width W and the gland depth F

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and/or height F (see Fig. 2) and has a great effect on the sealing ability and life of an O-ring application. It would have been obvious to one having ordinary skills in the art at the time the invention was made to have sized the seal in the prior art known fuel injector as a function of the deformation and/or the diametral squeeze to which the seal is subjected to during use of the injector as taught by Non Patent Literature "O-Rings" 26th Edition Machinery's Handbook, so as to achieve a predetermined working life of the injector.

Allowable Subject Matter

3. Claims 6-7, 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Knapp and Yun are cited to show the O-ring as a function of the deformation it undergoes due to the effect of axial compression.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thach H Bui whose telephone number is 703-305-0063. The examiner can normally be reached on Monday-Friday, 7:30-4 p.m.

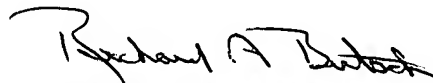
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Mar can be reached on 703-308-2087. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

T.B.
03/30/04
AU3752



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